Financial Reporting Quality and Voluntary Disclosures in Private Companies

Azlina Abdul-Jalil
Department of Accounting
University of Malaya
Kuala Lumpur
Malaysia

Peter Carey & George Tanewski
Department of Accounting
Deakin University
Victoria
Australia

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Abstract

This paper examines whether family ownership of private companies influences financial reporting quality and voluntary disclosures. Results reveal that family ownership impacts positively on financial reporting quality and on the likelihood of lodging abbreviated financial reports. While family-owned private companies have fewer incentives to provide voluntary information as they incur higher proprietary information costs, results support the argument that financial reporting quality and voluntary disclosure have different economic roles. Findings also suggest that lower voluntary disclosures do not necessarily imply financial reporting quality will be adversely affected, which has implications for policy makers and accounting standards setters.

JEL Classification: *M41, M43, M44, M47, M49, G34*

Keywords
Financial reporting quality, abbreviated financial reports, voluntary disclosure, family ownership, private companies.

Financial Reporting Quality and Voluntary Disclosures in Private Firms

1. Introduction

This paper investigates financial reporting behaviors of private medium sized family companies in the UK, with a particular focus on the effects of ownership structure on financial reporting quality and voluntary disclosures among private companies. Despite the possibility that private firms may exhibit lower levels of agency costs compared to public firms, private firms are not a homogeneous group and there is merit in examining how differences in ownership affect the financial reporting behavior of private firms. Accordingly, the first objective of this study is to examine whether ownership structure, specifically family and non-family ownership structures, affect financial reporting quality of medium sized private companies in the UK. The second objective is to investigate whether family and non-family firms have different preferences for voluntary disclosure.

Privately held entities constitute the majority of companies in the world (Chen, Hope, Li and Wang, 2011). In the United Kingdom, private companies outnumber public companies representing 99.6 per cent of all incorporated entities (Companies House, 2009/10). Furthermore, small and medium size enterprises (SMEs) play a major role in both developing and developed economies. SMEs account for 95 per cent of all firms in most countries (Chiao, Yang and Yu, 2006) and provide close to 60 per cent of manufacturing employment in a large proportion of countries (Ayyagari, Beck and Demirgüc-Kunt, 2007). In spite of their significant economic influence on the economy in terms of both employment and contribution to gross domestic product, little is known about the financial reporting practices by

private firms (Ball and Shivakumar, 2005) and by SMEs in particular (Ayyagari et al., 2007).

Similarly, family ownership is a common form of ownership (Burkart, Panunzi and Shleifer (2003). In the US, one-third of S&P (500) firms can be classified as family controlled (Anderson and Reeb, 2003) and at least half of all private companies in the US are family businesses (FFI, 2014). According to an Institute for Family Business Report (2011), family firms are the backbone of the UK economy. The report reveals that in 2010 there were almost 3 million family companies in the UK or more than three in five of all private sector enterprises. In terms of employment, UK family businesses provided 9.2 million jobs in 2010, which is around 50 per cent more than the entire UK public sector. Additionally, family-owned companies generated revenue of £1.1 trillion or 35.3 per cent of total private turnover.

Although research on family businesses in the public setting is relatively extensive, there is limited research examining financial reporting behaviour[1] and voluntary disclosures of private family and non-family companies. Private family firms have a unique ownership structure in that their founders or descendants are among the largest shareholders, they usually manage the firm, and they usually have a seat on the board of directors (Schulze, Lubatkin, and Dino, 2003). While theory suggests that family firms are more susceptible to entrenchment and/or expropriation problems (i.e., Agency Problem Type II) between controlling family and other stakeholders (Schulze, Lubatkin, Dino and Buchholtz, 2001), recent empirical research suggests that private family firms might actually derive agency benefits through their increased incentives to monitor firm performance and by having less

[1] A recent exception is Westhead and Howorth (2006) who investigated private family companies and performance and Dedman and Lennox (2009) who examined the impact of perceived competition on voluntary disclosure of private UK companies.

external pressures to meet short term objectives. These benefits are attributed to private family firms being insulated to the same capital market pressures that public companies experience and by substantial ownership closely tying firm wealth to family wealth - factors which might affect the financial reporting behaviour of family firms (Carney, Essen, Gedajlovic and Heugens, 2013). Notwithstanding these costs and benefits, the literature is still unclear whether private family firms increase agency costs due to their pursuit of non-economic goals or decrease agency costs as a result of their incentives to maximize family wealth (Carney et al., 2013). Accordingly, how these agency factors will affect the financial reporting and voluntary disclosure behaviour of private family firms is an open empirical question.

Furthermore, voluntary disclosure choices of family firms is an area where more research is warranted (Chen, Chen and Cheng, 2008). For example, empirical research reported by Anderson, Duru and Reeb (2009) suggests that in less transparent environments, family firms have no incentives to provide voluntary disclosures and as a consequence these firms are more susceptible to extracting firm resources for their own benefits. Meanwhile, Dedman and Lennox (2009) provide evidence that managers of private companies in the UK are more likely to withhold proprietary information if perceived or potential competition is strong. Following these studies, we extend Anderson et al's (2009) suggestions related to family firms and Dedman and Lennox's (2009) evidence on proprietary information, and investigate whether ownership structure has an impact on the quality of financial reporting as well as on the voluntary disclosure behaviours of private companies in the UK. In this manner, we examine whether ownership structure impacts the withholding of proprietary information in a transparent regulatory environment.

We utilize panel data on a sample of private UK companies over the period 2004-2011. The advantages of using UK companies are availability of data due to the regulatory environment requiring lodgement of financial reports by a wide variety of private companies and changes to the legislation during the sample period requiring firms to provide either full or abbreviated financial statements, making it possible to test proprietary costs among private companies in the UK. Unlike in the US and in other jurisdictions such as Australia where financial data of private companies is not widely accessible (Hope, Thomas and Vyas, 2013; Carey, Potter and Tanewski, 2014), private companies in the UK are required by law to file financial statements at Companies House (a central depository), enabling financial statements to be made publicly available (Collis, 2012). Further, as one of the objectives of the paper is to examine voluntary disclosure of private firms within the sample period utilized in this paper, there is an opportunity to examine voluntary disclosure preferences of private firms as the companies in the sample have the option to file full or abbreviated profit and loss accounts (Dedman and Lennox, 2009).

Using the Dechow and Dichev (2002) measure of accrual quality and the Jones (1991) discretionary accruals model as proxies for financial quality, we find family ownership is associated with higher financial reporting quality. Further, family ownership is only positively associated with earnings quality when ownership is more than 50 per cent of the companies shareholdings. This result corroborates evidence on family firms in the public firm setting such as Chen et al. (2013) and Ali et al. (2007). A GMM specification was also utilized in this study to take into account potential endogeneity issues in the modelling of family ownership. Overall, results observed from this alternative specification are largely similar and family ownership remains associated with higher financial reporting quality.

Logistic regression models suggest that family firms are significantly and positively associated with the likelihood of lodging abbreviated financial reports. Consistent with predictions results suggest that family and non-family firms have different preferences for voluntary disclosure. Furthermore, the results show that regardless of the firm's financial reporting quality, there is no significant difference as to whether family firms submit an abbreviated or full financial report. This is similar to the effect of family ownership observed by Ali et al. (2007), suggesting that financial reporting quality and the decision to voluntarily disclose information are two separate decisions. In particular, whilst voluntary disclosure is linked to proprietary cost issues, financial reporting quality is important for stewardship as private firms do not have market measures of firm value (Chaney et al. (2004). Moreover, it suggests that not disclosing potentially sensitive information is not indicative of lower financial reporting quality. This is in contrast to studies suggesting that in less transparent environments, families have incentives for private rent extraction (Anderson et al., 2009).

Our paper contributes to the literature on private firms, earnings quality and voluntary disclosure in several ways. First, it provides evidence on how variation in ownership, specifically family ownership across private medium-sized companies, affects the quality of both earnings and voluntary disclosure practices. Although a number of studies have examined family ownership and earnings management, this study is one the first few to examine how family ownership affects earnings in the private medium-sized company setting. This is important given the increasing emphasis being placed by regulators on accounting practices of small businesses worldwide (IASB, 2010; Carey et al. 2014). Furthermore, financial statements are usually the only source of publicly available information on private companies.

Information regarding the quality of this information would help to reduce information opacity, which is a characteristic of private firms' financial reporting environment (Minnis, 2011).

Second, this paper takes advantage of an ideal setting to test the proprietary cost hypothesis and contributes to the literature on voluntary disclosure. Specifically, this paper examines the potential impact that family ownership has on the disclosure behaviour of medium-sized private companies. Findings from this paper suggest that financial reporting and voluntary disclosure may have different economic roles, as family firms are associated with both better financial reporting quality and a lower likelihood to disclose potentially commercially sensitive information such as sales and cost of sales. Our study fills an important gap in the literature by examining the relationship between proprietary cost theory and ownership, specifically family ownership, on the companies' choice to disclose information on sales and cost of sales. In particular, results suggest that family ownership is an important indicator of voluntary disclosure. To the extent of our knowledge, this is the first study that examines this association in the context of private companies.

Third, an understanding of how earnings quality varies with ownership structure provides potential benefits to users of private companies' financial statements such as investors and creditors. Our evidence is line with the view that private companies are not a homogeneous group and different types of private companies vary in their financial reporting behavior. Additionally, an implication for policy makers is that, in light of the lower level of disclosures in IFRS for SMEs, findings suggest that this does not necessarily imply that financial reporting quality will be adversely affected.

The remainder of this paper is organized as follow. Section 2 is literature review and develops the hypotheses. Section 3 describes the data and methodology. Section 4 discusses the results and Section 5 outlines the conclusions.

2. Literature, Theory and Hypotheses

2.1 Earnings management and private family ownership

There is debate in the family firm literature on whether private family firms incur higher or lower agency costs compared to non-family private firms. The classic agency problem of separation of ownership and control (i.e., Agency Problem Type I) is argued to be less severe in family firms than among non-family firms (Ali et al., 2007; Setia-Atmaja, Haman and Tanewski, 2011). Family firms have several attributes that align incentives of managers to act in the best interest of shareholders (Ali et al., 2007). Family firms have both concentrated and undiversified shareholdings, which links their wealth to firm performance and subsequently heightens their incentives to monitor managers (Andersen and Reeb, 2003). Family firms also have long term and sustainable presence and their intention to preserve the family name suggests they have a greater stake in the firm compared to non-family firms (Wang, 2006). Accordingly, the alignment hypothesis argues that as the incentives of owners and managers are better aligned, this reduces the motivation to opportunistically manage earnings in family firms.

However, there is a strand of literature that argues family firms face more severe agency problems because of conflicts arising between controlling and non-controlling shareholders (i.e., Agency Problem Type II), resulting from expropriation and/or entrenchment (Setia-Atmaja et al, 2011). Further, due to the absence of capital market oversight, Schulze et al. (2001) highlight the potential agency costs that family altruism brings to private family firms such as free riding by family members and nepotism. The family's controlling interest in private firms provides them with greater opportunities for private rent extraction for the benefit of family members, which could be at the expense of minority shareholders (Schulze et al. 2001). For example,

the families' reluctance to fire incompetent family members are likely to lead to higher agency costs (Setia-Atmaja et al., 2011). These arguments suggest that financial reporting quality could be higher in non-family firms as family firms manipulate earnings in order to hide expropriation of wealth from outside shareholders. The rationale is that family ownership exacerbates agency problems between controlling and minority shareholders as family firms potentially experience greater information asymmetry between founding families and other shareholders (Wang, 2006). Consistent with this reasoning, the entrenchment hypothesis argues that family firms are less efficient because concentrated ownership creates incentives for controlling shareholders to expropriate wealth at the expense of other shareholders.

Both types of agency problems create incentives to manage earnings (Ali et al, 2007). Type I agency problems are arguably more severe among non-family firms as these firms are more likely to tie compensation contracts of managers to accounting numbers, creating incentives for earnings manipulation (Ali et al. 2007). However, due to the substantial and frequently exclusive ownership of private family firms, private family firms are highly incentivized to monitor their firms and maximize profitability (Carney et al. 2013). Moreover, as family owners are often more knowledgeable about the firm's business activities, they are better able to mitigate managerial expropriation more effectively through direct monitoring (Anderson and Reeb, 2003). Indeed, in the private setting where managers are also owners, the manager is more likely to be committed to seeking the interests of the family and will have less incentives to manipulate earnings in order to meet short term performance goals (Yang, 2010). Accordingly, from a lack of alignment perspective, private family

firms will have fewer incentives to manage earnings compared to non-family private firms.

The literature suggests that higher quality financial reporting observed among family firms is consistent with the notion that families have a desire to preserve socio-emotive wealth (Gomez-Mejia et al. 2011). Indeed socio-emotive wealth factors such as good reputation and a positive family image will mitigate incentives to manage earnings and thus outweigh reasons to manipulate earnings management. Furthermore, as family and firm wealth are closely linked, Stockmans et al. (2010) suggest that as expropriation of minority shareholders reduces family wealth, entrenchment and expropriation problems (i.e., Agency Problem Type II) are less dominant in private family firms and thus there will be fewer incentives to engage in opportunistic behaviour.

Notwithstanding the above theoretical arguments, empirical research provides inconclusive evidence on the impact family firms and concentrated ownership have on financial reporting quality. Using S&P 500 firms, both Ali et al. (2007) and Wang (2006) document family firms exhibit higher financial reporting quality compared to non-family firms. Outside the US environment, Cascino et al. (2010) examined earnings quality of Italian listed firms and found evidence that earnings quality of family firms is higher relative to their non-family counterparts, while Prencipe, Bar-Yosef, Mazzola and Pozza (2011) found that Italian family firms are less likely to smooth income, which is consistent with the theoretical arguments that family firms produce higher quality financial reports.

Beyond the capital market environment, Stockmans et al. (2010) used survey data of Belgian private family firms that engage in upward earnings management and found that founder family firms seem to have greater incentives to manage earnings

upwards in order to preserve socio-emotional wealth.[2] Meanwhile, Kvaal et al. (2012) investigated earnings management behavior of private family and non-family firms in Norway and found that private family firms are more likely to manage earnings downwards compared to non-family firms. However, this was not the case with highly leveraged private family firms, which were found to manage their earnings upwards. Kvaal et al. (2012) argue that these results are consistent with the notion that earnings management is used primarily as a tool to preserve family control.

Private family firms are usually characterised by substantial or exclusive ownership, while public family firms are more likely to be characterised by mixed ownership, in particular family block-holders, non-family block-holders, and other types of significant investors, as well as minority investors. Mixed ownerships in public family firms create incentives for public family firms to expropriate wealth from minority shareholders, while this is attenuated in private family firms as substantial ownership ties the family's wealth closely to the firms' wealth (Carney et al. 2013). In comparison to public family firms, private family firms are arguably more opaque as generally private firms need to disclose less information than public firms. Further, private family firms benefit less from capital market oversight, which suggests that private family firms are more exposed to altruism, loss aversion and pursuit of non-economic goals. These differences suggest that public and private family firms are distinct organization forms that have differing levels of agency problems, resulting in differing incentives for earnings management. Although family ownership enables better monitoring of managerial expropriation, it also provides incentives and opportunities for private rent extraction. Notwithstanding, due to their frequent substantial and exclusive ownership, private family firms have higher

[2] As per Stockmans et al. (2010), socio-emotional wealth " *refers to the non-financial aspects of the firm that meet the family's affective needs such as identity, the ability to exercise family influence, and the perpetuation of the family dynasty*" (p.280).

incentives to maximize profitability (Carney et al., 2013). Hence we argue that due to close links between family and firm wealth in private firms, private firms have fewer incentives to manage earnings opportunistically as it also reduces family wealth.

Thus, drawing on the aforementioned theory and empirical evidence, this study predicts that in private family firms, incentives to produce high quality financial reports will outweigh incentives to manage earnings and thus family firms will be associated with higher financial reporting quality. As such, the following hypothesis summarizes the above arguments:

H1: Private family firms will be associated with higher financial reporting quality compared to non-family private firms.

2.2 Voluntary disclosure and private family ownership

Voluntary disclosure is information provided by the firm in excess of information that is mandatorily disclosed. It refers to the owner's decision to file abbreviated (i.e., financial reports with the option not to disclose turnover and cost of sales) rather than full financial reports. Proprietary costs are incurred when competitors use private information to their advantage that is obtained through voluntary disclosure. The hypotheses related to voluntary disclosure are derived from proprietary cost theory and are based on the literature that argues proprietary costs limit incentives to provide voluntary disclosure (Verrechia, 1983).

Information regarding sales and cost of sales is relevant to competitors and there are proprietary costs incurred in its disclosure (Dedman and Lennox 2009). Specifically, information on sales and cost of sales is commercially sensitive, particularly for profitable companies, as it enables competitors to copy the strategies of more successful companies. For example, firms with lower costs will not want their

competitors to be aware of how they achieved a much lower cost of production (Dedman and Lennox 2009).

Notwithstanding, disclosure decisions are based on costs and benefits borne by the firm. Benefits of disclosure often highlighted in the public firm setting include reducing the cost of capital and improving liquidity (Francis, Khurana and Pereira, 2005). However, disclosure can also be costly as increased disclosure could result in a loss of proprietary information (Scott, 1994; Prencipe, 2004). Thus, in deciding whether to reveal voluntary information, firms face a trade-off between the benefits of reducing information asymmetry to capital providers and the costs of aiding competitors through revealing proprietary information. Proprietary cost theory argues that when there are no disclosure related costs, firms voluntarily disclose information in order to reduce information asymmetry (Verrechia, 1983). In particular, proprietary cost theory suggests that disclosure levels decrease with higher proprietary costs (Darrough and Stoughton, 1990).

Empirical research finds that a firm's ownership structure is associated with differing levels of disclosure, suggesting optimal disclosure levels differ across firms and that differing agency costs may provide some explanation for cross-sectional variations in the firms' disclosure policy (Gelb, 2000). Similarly, both ownership and competition are important in explaining the firm's voluntary disclosure behavior (Birt et al. 2006). Meanwhile, German firms only provide segment information when proprietary cost is low, that is, when entry barriers are relatively high (Leuz 2004).

Research on public firms' voluntary disclosure practises finds that family firms provide fewer earnings forecasts and conference calls, but they provide more earnings warnings, and are less likely to make voluntary disclosures about their corporate governance practices compared to non-family firms, suggesting that family

owners tend to bear the cost of proprietary disclosures (Ali et al. (2007; Chen et al. 2008). Research also finds that listed companies with controlling family members on the firm's board tend to have less transparent disclosures (Ho and Wong 2001). This suggests family firms have less incentives to provide voluntary disclosures as family members, who are both a substantial shareholder and a member of the board, will have direct access to both financial and non-financial information.

As outlined above, most prior research on voluntary disclosure is based on public rather than on private firms. This research also suggests that public family firms have lower incentives to provide voluntary disclosure and that proprietary costs among public firms are associated with a reduction in voluntary disclosures. Drawing on this research we argue that private family firms are characterized by substantial or exclusive ownership, suggesting they are likely to incur higher proprietary costs compared to private non-family firms. Accordingly, we argue that voluntary disclosure of information on sales and cost of sales is better explained by the firm's ownership structure. By using disclosures of sales and cost of sales among private firms as a proxy for voluntary disclosure, Hypothesis 2 predicts that family firms will less likely be associated with voluntary disclosure.

H2: Family firms will less likely be associated with the voluntary disclosures of sales and cost of sales compared to other types of private firm ownership structures.

The literature reports conflicting predictions on how earnings quality influences firms' disclosure decisions (Francis, Nanda and Olsson, 2008). Information asymmetry between firm insiders and shareholders creates demand for disclosure and provides incentives for firms to disclose because the value of additional information is

greater in these settings (Grossman and Hart 1980). In contrast, in his model of how the quality of information available to managers explains subsequent voluntary disclosure, Verrecchia (1990) argues that if information quality increases, managers will have more incentives to disclose information. Accordingly, using this argument, firms with better financial reporting quality will have more voluntary disclosure (Francis et al., 2008).

Further, evidence on the association between voluntary disclosure and earnings quality is mixed and inconclusive. Lobo and Zhou (2001) provide evidence that increased disclosure is associated with reduced earnings management, while Francis et al. (2008) document a complementary association between earnings quality and voluntary disclosure. Examining the relationship between high quality accounting disclosures and financial reporting quality of 500 UK listed firms after IFRS adoption between 2005 and 2009, Latridis (2011) finds firms that have higher levels of disclosures engage in less earnings management and have greater levels of conditional conservatism. In more recent research, Mouselli et al. (2012) find that firms with higher quality financial reporting also have higher disclosure quality. In contrast, Shaw (2003) finds firms with higher quality disclosures use discretionary accruals to smooth earnings more aggressively than firms with lower quality disclosures, suggesting that higher quality disclosure does not always indicate lower earnings management.

As prior literature provides mixed and inconclusive evidence on the relationship between earnings quality and disclosure decisions, and this relationship has not been examined in the context of private family firms, we investigate private ownership structure type on disclosure and its effect on earnings quality Thus, Hypothesis 3 summarises the aforementioned arguments and predicts the following:

H3: Family firms that are associated with voluntary disclosures of sales and cost of sales are more likely to exhibit higher financial reporting quality compared to other private firms types not associated with voluntary disclosures of sales and cost of sales.

3. Method

3.1 Sample selection

This paper utilizes panel data of medium-sized UK private companies for the period 2004-2011. Financial and ownership data were obtained from Bureau Van Dijk (BVD) through their FAME database. This database has been used in prior research on private companies such as Ball and Shivakumar (2005) and Dedman and Lennox (2009).

The sample comprises only privately held companies domiciled in the United Kingdom and excludes the following companies: public limited companies, whether listed or unlisted, inactive companies and wholly owned subsidiaries of public companies; all companies from the financial services and energy and utilities industries are excluded as these companies have unique disclosures, a high degree of complexity and a unique accrual generating process; public administrative institutions are also excluded (Van Tendeloo and Vanstraelen, 2008) as they have different objectives in comparison to profit making entities. The sample selection process is summarized in Table 1 and after following the selection criteria, 3,152 firms were left in the sample.

Insert Table 1 here

The sample selection period of 2004-2011 includes changes introduced to the size thresholds of private medium-sized firms in the UK in 2004, enabling some firms that previously filed full accounts to be eligible during and after 2004 to file

abbreviated financial reports (i.e., reports that do not disclose turnover and cost of sales information). Accordingly, the period 2004–2007 provides a natural laboratory setting to test proprietary costs among private medium sized firms in the UK. In particular, to test the relation between family ownership and voluntary disclosure, we use submission of abbreviated report by companies as the dependent variable (i.e., coded 1 if the firm files abbreviated financial reports and 0, otherwise). The non-disclosure of turnover and cost of sales information in the abbreviated financial reports proxy for proprietary costs (Dedman and Lennox, 2009).

3.2 Measures

3.2.1 Dependent Variables

Proxies for Financial Reporting Quality - This paper uses two measures of financial reporting quality (Chen et al., 2011). We test whether financial reporting quality, as proxied by the Jones (1991) discretionary accruals model and the modified Dechow-Dichev (2002) measure, is a function of type of private firm ownership and a number of private firm characteristics identified in the literature. The coefficient of interest is Famdum (a family firm indicator variable), which examines the association between family ownership and financial reporting quality. Hypothesis 1 is accepted if there is a positive association between the family dummy and the proxies of financial reporting quality. The basic form of the model is presented in equation (1) below:

$$FRQ_{it} = \alpha_0 + \alpha_1 Famdum_{it} + \alpha_2 Ownership_{it} + \alpha_3 Leverage_{it} + \alpha_4 Size_{it} + \alpha_5 ROA_{it} + \alpha_6 AbsROA_{it} + \alpha_7 GROWTH_{it} + \alpha_8 Audit_{it} + \alpha_9 Loss_{it} + \alpha_{10} Age_{it} + \alpha_{11} Industry_{it} + \beta_{12} Year_{it} + \varepsilon_{it} \quad (1)$$

Two measures are used to proxy for financial reporting quality. The first is the performance-adjusted discretionary accruals measure developed by Kothari, Leone and Wasley (2005), which is estimated cross-sectionally using all firm-year observations for each industrial sector that has at least 10 observations.

$$TACC_{it}/TA_{it-1} = \alpha_0 + \alpha_1(1/TA_{it-1}) + \alpha_2\Delta REV_{it}/TA_{it-1} + \alpha_3 PPE_{it}/TA_{it-1} + \alpha_4 ROA_{it} + \varepsilon_{it} \quad (2)$$

Where, $TACC_{it}$ is total accruals of medium-sized company i in year t,(measured as the change in non-cash current assets minus the change in current non-interest bearing liabilities, minus depreciation); TA_{it} is total assets; ΔREV_{it} is annual change in revenue; PPE_{it} is property, plant and equipment and ROA_{it} is net income divided by total assets at the end of balance sheet date. The absolute value of the residuals in the industry specific regression equation are used to proxy for the discretionary accrual component. Further, the absolute value of the residual is multiplied by -1 as a proxy for accrual quality (Hope et al. 2013) as it enables the construction of a metric that is increasing in accounting quality, that is, higher values represent higher accrual quality.

The second measure of accruals quality is the modified version of the cross-sectional Dechow and Dichev (2002) model as shown in equation 3 below:

$$WCA_{it} = \alpha_0 + \alpha_1 OCF_{it-1} + \alpha_2 OCF_{i,t} + \alpha_3 OCF_{it+1} + \alpha_4 DOCF_{it} + \alpha_5 DOCF_{it} * OCF_{it} + \varepsilon_t \quad (3)$$

Where, WCA_{it} is the working capital accruals of medium-sized firms i at year t, measured as the change in non-cash current assets minus the change in current

liabilities other than short term debt, scaled by lagged total assets; OCF_{it} is cash flows from operations at year t, measured as the sum of net income and depreciation minus WCA, scaled by lagged total assets at year t; OCF_{it-1} is operating cash flows at t-1, scaled by lagged total assets at year t; OCF_{it+1} is operating cash flows at t+1, scaled by lagged total assets at year t; $DOCF_{it}$ is an indicator variable, where one if the changes in cash flow at t is less than zero ($CF_t - CFO_{t-1} < 0$), and zero otherwise and $DOCF_{it} * OCF_{it}$ is a proxy for economic losses.

Voluntary Disclosure (Proxy for Proprietary Costs) - Abbreviated financial reports proxy for proprietary costs as sales and cost of sales are commercially sensitive information (Dedman and Lennox, 2009). To test the relation between family ownership and voluntary disclosure, the dependent variable is abbreviated report, coded 1 if the firm files abbreviated financial reports and 0, otherwise. The variable of interest is Famdum (a family firm indicator variable). Hypothesis 2 will be supported if Famdum is positively and significantly associated with abbreviated financial reports as prior literature has provided evidence that family firms prefer less voluntary disclosure (Chen et al, 2008). Given the dichotomous nature of the dependent variable, a logistic regression model is utilised as per equation (4) below:

$$\text{Ln [p/1-p]}\ ABBREV_{it} = \alpha_0 + \alpha_1 Famdum_{it} + \alpha_2 Ownership_{it} + \alpha_3 HERF_{it} + \alpha_4 Size_{it} + \alpha_5 Leverage_{it} + \alpha_6 Age_{it} + \alpha_7 Liquidity_{it} + \alpha_8 AssetTangibility_{it} + {}_i\alpha_9 ABsROA_{it} + \alpha_{10} LTDebt_{it} + {}_i\alpha_{11} LTDebt_{it} + \alpha_{12} Growth_{it} + \alpha_{13} Audit_{it} + {}_i\alpha_{14} INDUSTRY_{it} + \varepsilon_{it} \quad (4)$$

Where, $ABBREV_{it}$ is an indicator variable with a value of 1 when firm *i* did not disclose sales and cost of sales *t*, 0 otherwise; $Famdum_{it}$ is a dummy variable taking the for value of 1 if family firm; else 0; $Ownership_{it}$ is the proportion ownership of the largest ultimate shareholder; $HERF_{it}$ is calculated as the sum of squares of market

shares in the industry; $Size_{it}$ is the natural logarithm of total assets; $leverage_{it}$ is total debt divided by total asset; Age_{it} is firm age in years; $Liquidity_{it}$ is current assets over current liabilities; Assets $tangibility_{it}$ is plant, property and equipment divided by total assets; ROA_{it} is net income divided by total assets; $LTDebt_{it}$ is Long Term debt divided by total assets; is $GROWTH_{it}$ is current growth in assets for year t and $AUDIT_{it}$ is an indicator variable with a value of 1 when firm *i* hires a BIG 4 auditor during year *t*, 0 otherwise.

3.2.2 Explanatory Variables - Family Ownership

Consistent with prior studies (Claessen et al., 2002; La Porta, Lopez-de-Silanes and Shleifer, 1999), this study focuses on ultimate family ownership. An ultimate owner is defined as the shareholder who is not controlled by anyone else and is identified by looking at the detailed ownership structure in the FAME database. Although a company can have more than one ultimate owner, consistent with Fan and Wong (2002), this paper focuses on the largest ultimate owner. We define family ownership as those in which the family member are in the top management and is the largest percentage shareholder. In particular, the definition of family companies utilized in this study is an indicator variable, coded one when family members are either on the board of directors or in the top management and is the largest percentage ultimate shareholder(s) and, 0 otherwise. This measure of family firm captures both family ownership and family control, which is consistent with other operational definitions utilized in the literature to capture the family firm construct. Additionally, in robustness test, an alternative definition of family firms is utilised. Specifically, family firms are subdivided into family firms with shareholdings of more than 50 per cent and shareholdings of less than 50 per cent of total shares.

3.2.3 Control Variables – Private Company Characteristics

We include several control variables that potentially affect discretionary accruals in the regression models. We expect size, performance and age to be to be positively associated with financial reporting quality. Larger firms are more visible and thus face more demand for higher quality financial reporting. Dechow and Dichev (2002) show that larger firms tend to have more stable and predictable operations. Prior research shows that it is important to control for performance as firms with low (high) earnings tend to have negative (positive) discretionary accruals (Kim and Yi, 2006). Moreover, Kothari et al. (2005) argue tests related to financial reporting discretion that do not control for performance are often misspecified. Consistent with prior literature, loss is controlled for in the model because firms that have negative income are usually associated with lower accounting quality (Wang, 2006). We expect loss to be negatively associated with financial reporting quality.

We include several control variables that potentially affect voluntary disclosure in the regression models in the logit regression models. The Herfindahl-Hirschman index is used to proxy for competition and is calculated as the sum of squares of sales in the industry (Dedman and Lennox, 2009). Higher values of the Herfindahl index denote greater concentration of sales which is generally interpreted as indicating the industry is less competitive. We expect that more intense competition will lead to lower disclosure. Dedman and Lennox (2009) found evidence in their study of UK private manufacturing companies that successful private companies are less likely to lodge full financial reports if they are more profitable. Performance is predicted to be positively associated with the filing of abbreviated financial reports as better performing firms have lower incentives to withhold information.

4. Results

4.1 Descriptive Statistics

Table 2 Panel A presents the mean values for companies segregated by family and non-family and the test statistics for mean differences on several dimensions. The mean for both the Jones and the Dechow-Dichev accrual measures for family companies are significantly larger compared to non-family companies ($p < .01$). Higher values represent better financial reporting quality, providing early support for H1, which predicts that family companies have better financial reporting quality than non-family companies. Moreover, the mean ownership percentages of the largest owner are 86 per cent for family and 72.3 per cent for non-family companies, which suggests that family companies are more concentrated than non-family companies. Family firms also appear to be smaller than non-family firms at the 1 per cent level and on average have less debt than non-family firms. With respect to performance as measured by ROA, results from the t-test suggest that family and non-family companies in this sample do not differ with respect to performance.

Table 2 Panel B presents the mean values for firms segregated by abbreviated and full financial statements and the test statistics for mean differences. The t-test statistics show firms that lodge abbreviated and full financial statements have several different company specific characteristics. With regards to the lodgement of full financial reports, 52 per cent of the full financial reports lodged were by family companies. Meanwhile, 75 per cent of family companies lodged abbreviated financial reports. In addition, the t-test suggest companies that file abbreviated financial statements have higher ownership concentrations. Turning to the measure used for accruals quality, the mean value for the Dechow measure is significantly larger (at the one per cent level) for firms that produce abbreviated financial statements. This

provides early evidence suggesting that companies filing abbreviated financial statements have higher financial reporting quality. Using ROA as a proxy for profitability, evidence suggests that better performing firms provide minimal disclosure. This is similar to the evidence documented by Dedman and Lennox (2009) and is consistent with the argument that better performing companies have more to lose by releasing commercially sensitive information such as sales and cost of sales.

Insert Table 2 here

4.2 Earnings management and private family ownership

Table 3 reports pooled regression results as specified in equation (1) using discretionary accruals (Jones) and an accrual quality measures (Dechow and Dichev, 2002) as the dependent variable. The coefficient from the Dechow-Dichev model is 0.003 and is significant, suggesting that family companies are associated with higher accruals quality. Consistent with the Dechow-Dichev model, the Jones model is also positive and significant, and both models are significant at $p<0.01$. The adjusted R^2 is 14.5 per cent or higher which is similar to other studies using earnings quality models (Wang, 2006). Table 4 presents results using random effect regressions. Both models' results remain qualitatively unchanged and show that family companies are positively associated with better financial reporting quality, which suggests that family companies have fewer incentives to manage earnings.

Insert Tables 3 and 4 here

Although theory suggests that family firms face entrenchment and expropriation problems, the evidence indicates that private family firms have fewer incentives to manage earnings, providing support for H1. A possible explanation is the close link between family and firm wealth, with private family companies having

fewer incentives to manage earnings opportunistically, as it reduces the family's wealth (Stockmans et al., 2010). Furthermore, these results are consistent with the conjecture that less severe agency problems result in less opportunistic earnings managements and higher financial reporting quality (Ali et al, 2007). The results also lend support to the argument that family firms have longer time horizons, and are willing to forgo short-term benefits from earnings management as it may affect the long-term performance of the firm. Moreover, results are also consistent with the view that family shareholders treat their ownership as an asset to pass on to their heirs, rather than wealth to consume during their lifetimes (Anderson and Reeb, 2003). Accordingly, private family firms have fewer incentives to manage earnings.

Consistent with prior studies (e.g., Wang 2006) size is positive and significantly related to earnings quality, suggesting that larger firms are associated with higher financial reporting quality. In addition, leverage is negative and significant in the Jones discretionary accrual model (see Tables 3 and 4). Thus, although a major source of finance in privately held companies is banks (Vander Bauhede and Willekens, 2004), this lends some support to the argument by Ball and Shivakumar (2005) that private companies are more likely to communicate with lending banks privately and via establishing relationships. Moreover, as highlighted by Dedman and Lennox (2009), banks do not need to rely on publicly available financial statements as banks can obtain this information directly from companies without the companies having to make the information publicly available.

4.3 Earnings management and voluntary disclosure

Table 5 presents the results of logit regressions examining a company's decisions to file abbreviated financial statements. Both the family indicator variable and

ownership concentration are positively and significantly associated with the likelihood of filing of abbreviated financial statements.

Insert Table 5 here

A similar result is also documented by Ali et al. (2007) in the public firm setting. Ali et al. (2007) found that despite family firms exhibiting better earnings quality, family firms provided less transparent disclosures of their corporate governance practices in their sample of public firms. This is consistent with the conjecture that family and non-family firms have different preferences for voluntary disclosure. As family firm's have more concentrated ownership, an undiversified portfolio and better access to information (Anderson and Reeb, 2003), these family companies place a lower preference for voluntary disclosure.

Another explanation for family companies showing lower preferences for voluntary disclosure is they bear the proprietary costs of disclosing private information such as providing competitors with commercially sensitive information, which may result in a loss of profits (Chen et al., 2008). Furthermore, it is not clear that they stand to gain benefits from voluntary disclosure, as they are able to communicate with their stakeholders privately. Accordingly, voluntary disclosure of sales and cost of sales by family firms is a response to whether these items are viewed as commercially sensitive information. Thus family firms that stand to lose more from disclosing such commercially sensitive information are unlikely to lodge full financial reports. In summary, results in Table 5 show consistently that family firms are positively and significantly associated with the likelihood of filing of abbreviated financial statements, supporting Hypothesis 2, which suggests that family firms have fewer incentives to provide voluntary disclosures.

With respect to the control variables, as predicted size is significantly and negatively associated with the likelihood of filing abbreviated financial statements. Age is also positively associated with the likelihood of filing abbreviated financial reports and is consistent with the argument by Dedman and Lennox (2009) that one of the reasons for their longevity is due to these companies' ability to hide the reason for their competitive advantage. Performance as measured by return on assets is positively and significantly associated with the likelihood of filing abbreviated financial statements. This is consistent with Dedman and Lennox (2009) who found evidence in their study of UK private manufacturing companies that successful private companies are less likely to lodge full financial reports if they are more profitable. This result supports the argument that highly profitable companies have incentives to hide their success in order to prevent rivals from copying their success (Dedman and Lennox, 2009).

Table 6 presents results of logit regressions examining the association between the company's decision to file abbreviated financial statements and financial reporting quality using the Dechow-Dichev measure as a proxy for financial reporting quality. Table 6 (see Column 1) shows that the coefficient for the Dechow-Dichev measure is not significant and the interaction term (as shown in Column 2) between family and financial reporting quality is similarly not significant. The results show that regardless of the firm's financial reporting quality, there is no significant difference as to whether family companies submit an abbreviated or full financial report which provides no support for Hypothesis 3.

Insert Table 6 here

A possible explanation could be that financial reporting quality and voluntary disclosure have different economic roles in private family companies. It is argued that

quality of financial reporting is important for stewardship as private companies do not have market measures of firm value (Chaney et al. (2004). Notwithstanding, due to their undiversified and concentrated nature, private family companies will have less to gain from voluntary disclosure. Furthermore, family companies will bear all the proprietary costs of disclosing proprietary information such as providing competitors with commercially sensitive information which may lead to loss of profits. Accordingly, voluntary disclosure of sales and cost of sales by family companies is a response to whether sales and cost of sales is viewed as commercially sensitive information, thus it is argued that family companies that stand to lose more will be unlikely to be associated with the likelihood of lodging full financial reports. Furthermore, it suggests that not disclosing potentially sensitive information is not indicative of lower financial reporting quality.

4.1.3 Robustness Tests

Changes in Regulation (Companies Act 2006) - In 2008 there were changes made to the Companies Act 2006 (Amendment), which increased the threshold for medium companies in the UK. Even though a year indicator variable was included as a control in regression models reported in Tables 2 and 3, this study includes separately a regulation indicator variable to assess if there are any changes in the regression results. The interaction between family and the regulation change dummy is not significant, suggesting that the change in regulation did not affect family firm financial reporting behavior (due to limited space, robustness test tables are not reported in this paper but are available on request). The ownership concentration and regulation indicator is only marginally significant for the Dechow-Dichev (2002) model at the 10 per cent level. This provides some evidence that firms with higher

ownership concentrations improved their financial reporting quality after the change in regulation in 2008.

Alternative Measures of Family Owned Companies - Although there is broad agreement that family exercises a large influence over the family firms, numerous and differing operational definitions are utilized in order to capture the family firm construct. Gomez-Mejia et al. (2011) argue that often the operational threshold utilized to capture family firms is too low outside the realm of the largest publicly traded American firms. In the regressions reported earlier, the family dummy variable captures family control and ownership, but it does not specify a cut off for the level of ultimate family ownership. In order to capture whether level of ownership matters, family is divided into separate categories of ownership of 50 per cent and over and ownership of less than 50 per cent. In both categorizations, family members are in top management. Random effects regression results show that family has only a positive effect on earnings quality when ownership is greater than 50 per cent. This suggests that where family owners have significant influence and control over management, they are able to effectively mitigate managerial expropriation in line with the alignment effect.

Performance and Endogeneity - An issue highlighted in the literature on ownership is the potential endogeneity problem that exists between ownership and performance. In particular, Hutton (2007) maintains that if families only retain ownership and control of successful firms, then the relationship between financial reporting quality and family firms is spurious. As previously outlined, following Kim and Yi (2006), two measures of performance have been included in order to control for the effect that performance may have on financial reporting quality. Additionally, a robustness check is carried out to address the potential endogeneity problem

between performance and earnings quality by utilizing a dynamic panel model using the generalized method of moments (GMM) system estimator. GMM results[3] show that family remains positively and significantly associated with all the earnings quality proxies, suggesting that the relationship between family and earnings quality is not spurious due to endogeneity problems. However, ownership concentration is not significant in all the models, suggesting that it is family control and not ownership concentration that is associated with better financial reporting quality.

5. Discussions and Conclusions

This paper is designed to further our understanding of financial reporting behaviour of private medium-sized companies in the UK. Specifically this paper examines whether variation in the type of ownership, that is family versus non-family, influences financial reporting quality and voluntary disclosure behaviour of private medium-sized companies. Using both the Dechow-Dichev (2002) measure of accrual quality and the Jones (1991) discretionary accruals model, results reveal that family ownership is associated with higher financial reporting quality. Evidence from this paper corroborates the findings of research in the public setting and suggests that even in the private firm setting, where there is arguably less capital market pressure to produce high quality financial reports, family companies are associated with higher quality financial reports (Wang, 2006; Ali et al. 2007).

Notwithstanding, logit regressions suggest that family companies are significantly and positively associated with the likelihood of lodging abbreviated financial reports. The result is consistent with the notion that family companies have less incentives to provide voluntary disclosure as they incur more costs in terms of

[3] Due to space constraints, GMM results are not reported in a Table in this version of the paper but are available on demand.

loss of proprietary information, but due to their substantial ownership and involvement in management they derive less benefit from voluntary disclosures. The results corroborate evidence from Chen et al. (2008), who document that family owners in the public company setting prefer less voluntary disclosure.

Overall this paper contributes to the literature in several ways. First, it provides recent evidence on the positive effect of private family ownership on financial reporting quality. Despite the prevalence and economic importance of private companies, research on private companies, particularly the effect of variations in ownership in the private company setting is very limited. Second, this paper takes advantage of an ideal setting to test the proprietary cost hypothesis and fills an important gap in the literature by providing insights into the impact of private family ownership on voluntary disclosure. Third, a practical contribution is that it presents recent evidence to provide a better understanding of private companies' financial statements to both users and policy makers. In particular, private financial statement users should incorporate ownership in their evaluations of private statement financial statements as unique characteristics of private family companies have different implications on their financial reporting quality and voluntary disclosure behavior. For policy makers, in light of the lower level of disclosures in IFRS for SMEs, an implication is that findings suggest lower disclosures do not necessarily imply that financial reporting quality will be adversely affected.

A limitation of this study is that while two earnings quality measures were utilized to triangulate the results, nonetheless as highlighted by Hope et al. (2013), the literature has provided many variations of these models. Accordingly, similar to Hope et al. (2013), using alternative models may affect the outcomes of conclusions in this thesis. Furthermore, care must be taken not to generalize the findings beyond

medium-sized private UK companies. In particular, conclusions in this thesis may not apply to US private companies as in the US; private company's information environment is more opaque as financial reports are not widely distributed to the public.

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Table1: Sample Selection

	Number of Companies
Population of private companies available in the FAME database in December 2012	7,755,657
Less Inactive Companies	(5,065,130)
Less Companies not meeting the medium-sized company criteria	(2,604,531)
Less Utilities, Financial and Insurance, and Public Administrative Institutions	(9,953)
Less subsidiaries	(72,891)
Sample for analysis	3,152

Table 2 Panel A: Mean Comparisons of Family and Non-Family Companies by Financial Reporting Quality and Firm Characteristics

Measure	Family Company	Non-Family Company	t-test
Jones	-0.079	-0.109	-14.916***
Dechow-Dichev	-0.043	-0.062	-16.988***
Ownership	0.860	0.723	-38.22***
ROA	0.034	0.033	-0.928
AbsROA	0.056	0.082	22.624***
Size	11,547	16,022	10.263***
Leverage	0.281	0.334	12.778***
Growth	0.057	0.072	4.238***
Age	30.5	25.27	-14.347***
Loss‡	0.175	0.242	11.571***
Audit‡	0.077	0.290	41.27***

Panel B: Mean Comparisons by Abbreviated and Full Financial Statements

Measure	Full	Abbreviated	t-test	Mann-Whitney test
Family Dummy‡	0.52	0.75	-19.88***	-19.40***
Ownership	0.77	0.84	-9.09***	-7.606***
Herfindahl Index	0.000016	0.000015	0.50	9.673***
Dechow[4]	-0.06	-0.04	-7.08***	-6.078***
LnSize	9.20	8.94	18.79***	18.34***
Leverage	0.33	0.289	6.07***	4.482***
Age	26.23	31.09	-9.41***	-13.12***
Liquidity	1.66	1.91	-6.92***	-7.545***
Asset Tangibility	0.37	0.43	-8.49***	-9.31***
ROA	0.04	0.04	-3.32***	-2.857***
Long Term Debt	0.25	0.24	1.06	-0.11
Growth	0.11	0.08	5.67***	1.92**
Audit‡	0.28	0.05	24.35***	23.62***

Discretionary Accruals is abnormal accruals using Jones (1991); Dechow is earnings quality proxy using modified Dechow-Dichev (2002) model; Disclosure Indicator is an indicator variable, where 1 is lodging an abbreviated profit and loss account (i.e., does not disclose sales and cost of sales) and 0 when firms file full financial reports; Family Dummy is an indicator variable, where 1 is when family members is the largest percentage ultimate shareholder and are either on the board of directors or in the top management and, 0 otherwise; Ownership is the proportion ownership of the largest ultimate shareholder; ROA is net income divided by total assets; AbsROA is absolute value of ROA; Size is natural log of total assets; Leverage is total debt divided by total assets; growth is growth rate in assets; Age is firm age in years; Loss is an indicator variable, 1 if a firm is reporting net income <0 for the year, 0 otherwise; Audit is an indicator variable, 1 if the firm has a Big 4 auditor, 0 otherwise; Asset tangibility is fixed assets divided by total assets; ROA is net income divided by total assets; Long term Debt is long-term debt over total liabilities, Growth is growth rates in assets; Herfindahl Index is concentration in the firm's industry; ‡ This indicates proportion of firms, rather than the mean proportion of associated variables.

[4]Given that companies that lodge abbreviated financial reports do not disclose a value for turnover (sales), the Jones discretionary accruals was not utilized as a proxy for financial reporting quality as it requires the value of turnover to be used in the measure.

Table 3: Pooled Regression Results on Earnings Quality and Family Ownership

	(1)	(2)
VARIABLES	Dechow-Dichev	Jones
famdum	0.003***	0.009***
	(3.05)	(3.80)
ownership	-0.004*	-0.003
	(-1.93)	(-0.81)
ROA	0.071***	-0.003
	(4.81)	(-0.11)
AbsROA	-0.425***	-0.196***
	(-29.79)	(-9.07)
Lnsize	0.002*	0.005**
	(1.84)	(2.56)
Leverage	-0.004	-0.013**
	(-1.24)	(-2.21)
Growth	-0.045***	-0.106***
	(-10.95)	(-11.56)
Age	0.000*	0.000**
	(1.73)	(2.11)
Loss	-0.014***	-0.009***
	(-8.53)	(-2.69)
Audit	-0.004**	-0.005
	(-2.10)	(-1.61)
Constant	-0.017*	-0.069***
	(-1.69)	(-3.73)
Industry and Year	Yes	Yes
Observations	7,191	8,156
R^2	0.422	0.148
Adjusted R^2	0.420	0.145

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

famdum is an indicator variable, where 1 is when family members is the largest percentage ultimate shareholder and are either on the board of directors or in the top management and, 0 otherwise; Ownership is the proportion ownership of the largest ultimate shareholder; ROA is net income divided by total assets; AbsROA is absolute value of ROA; LnSize is natural log of total asset; Leverage is total debt divided by total assets; Growth is growth rate in assets; Age is firm age in years; Loss is an indicator variable, 1 if a firm is reporting net income <0 for the year, 0 otherwise; Audit is an indicator variable, 1 if the firm has a Big 4 auditor, 0 otherwise; Year consists of 7 dummy variables; Industry consists of 12 dummy variable.

Table 4: Random Effects (RE) Regression Results on Earnings Quality and Family Ownership

	(1)	(2)
VARIABLES	Dechow-Dichev	Jones
famdum	0.004***	0.009***
	(3.04)	(3.28)
ownership	-0.005*	-0.004
	(-1.76)	(-0.78)
ROA	0.068***	-0.003
	(3.91)	(-0.14)
AbsROA	-0.424***	-0.173***
	(-26.36)	(-7.95)
LnSize	0.002*	0.007***
	(1.69)	(2.93)
Leverage	-0.005	-0.016**
	(-1.37)	(-2.23)
Growth	-0.043***	-0.100***
	(-11.51)	(-11.55)
Age	0.000	0.000**
	(1.24)	(2.21)
Loss	-0.014***	-0.008**
	(-7.54)	(-2.41)
Audit	-0.004*	-0.007*
	(-1.81)	(-1.84)
Constant	-0.015	-0.087***
	(-1.32)	(-3.97)
Industry and Year	Yes	Yes
Observations	7,191	8,156
Number of ID	1,925	2,035
R^2	0.4222	0.1470
Adjusted R^2	0.4199	0.1440

Robust z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

famdum is an indicator variable, where 1 is when family members is the largest percentage ultimate shareholder and are either on the board of directors or in the top management and, 0 otherwise; Ownership is the proportion ownership of the largest ultimate shareholder; ROA is net income divided by total assets; AbsROA is absolute value of ROA; LnSize is natural log of total asset; Leverage is total debt divided by total assets; Growth is growth rate in assets; Age is firm age in years; Loss is an indicator variable, 1 if a firm is reporting net income <0 for the year, 0 otherwise; Audit is an indicator variable, 1 if the firm has a Big 4 auditor, 0 otherwise; Year consists of 7 dummy variables; Industry consists of 12 dummy variables

Table 5: Probit Regression Results on Abbreviated Financial Statements and Determinants of Disclosure

VARIABLES	Abbreviated Financial Statements
famdum	1.146***
	(5.23)
ownership	1.953***
	(4.87)
Herfindahl Index	-859.277
	(-1.02)
Size	-1.603***
	(-8.53)
Leverage	0.883*
	(1.67)
Age	0.016***
	(3.08)
Liquidity	0.204**
	(2.25)
Asset tangibility	1.371***
	(2.73)
ROA	1.813*
	(1.88)
LTdebt	-0.529
	(-0.86)
Growth	0.145
	(0.63)
Audit	-2.861***
	(-5.77)
Constant	8.199***
	(5.02)
Observations	5,123
Number of ID	2,047
Pseudo R2	0.1357

Robust z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Disclosure Ind is an indicator variable, coded 1 when firms file abbreviated profit and loss accounts (i.e., does not disclose sales and cost of sales) and coded 0 when firms file full financial reports; famdum is an indicator variable coded 1 is when family members is the largest percentage ultimate shareholder and are either on the board of directors or in the top management and, 0 otherwise; ownership is the proportion ownership of the largest ultimate shareholder; Herfindahl Index is Herfindahl Index of Concentration; Size is natural log of total assets; Leverage is total debt divided by total assets; Age is number of years since incorporation; Liquidity is current assets over current liability; Asset tangibility is fixed assets divided by total assets; Gross profit is gross profit divided by total asset ; ROA is net income divided by total assets; LT Debt is long term debt divided by total liabilities; Growth is growth rate in assets; Audit is an indicator variable, 1 if the firm has a Big 4 auditor, 0 otherwise

Table 6: Logit Regression Results on Abbreviated Financial Statements, Family and Financial Reporting Quality

	(1)	(2)
VARIABLES	Abbreviated Financial Statements	
famdum	1.426***	1.293***
	(4.26)	(3.37)
ownership	2.458***	1.701**
	(4.00)	(2.34)
famdum*Dechow		-3.276
		(-0.81)
Ownership*Dechow		-16.905*
		(-1.90)
Dechow-Dichev	0.845	16.949**
	(0.42)	(2.14)
Herfindahl Index	-2,259.530**	-2,234.572**
	(-2.05)	(-2.03)
Size	-2.837***	-2.841***
	(-6.81)	(-6.75)
Leverage	0.364	0.445
	(0.42)	(0.51)
Age	0.016**	0.016**
	(2.20)	(2.14)
Liquidity	0.665***	0.682***
	(3.22)	(3.47)
Asset Tangibility	2.703***	2.652***
	(3.25)	(3.21)
ROA	1.876	1.906
	(1.16)	(1.14)
LTdebt	-0.806	-0.846
	(-0.78)	(-0.82)
Growth	0.872*	0.800*
	(1.95)	(1.77)
Audit	-3.634***	-3.622***
	(-5.07)	(-5.22)
Constant	18.252***	18.977***
	(5.18)	(5.28)
Observations	2,887	2,887
Number of ID	1,613	1,613
Pseudo R^2	0.2238	0.2269

Robust z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Disclosure Ind is an indicator variable, coded 1 when firms file abbreviated profit and loss accounts (i.e. does not disclose sales and cost of sales) and coded 0 when firms file full financial reports; famdum is an indicator variable coded 1 when family members is the largest percentage ultimate shareholder and are either on the board of directors or in the top management and, 0 otherwise; ownership is the proportion ownership of the largest ultimate shareholder; Herfindahl Index is Herfindahl Index of Concentration; Dechow-Dichev is earnings quality proxy using modified Dechow-Dichev (2002) model; Size is natural log of total assets; Leverage is total debt divided by total assets; Age is number of years since incorporation; Liquidity is current assets over current liability; Asset in place is fixed assets over total assets; Gross profit is gross profit divided by total asset ; ROA is net income divided by total assets; LT Debt is long term debt divided by total liabilities; Growth is growth rate in assets; Audit is an indicator variable, 1 if the firm has a Big 4 auditor, 0 otherwise

Appendix A: Variables for Financial Reporting Quality and Discretionary Accruals Models

Variable	Exp.Sign	Definition
Dependent: Jones		Discretionary accruals using Jones(1991)
Dechow-Dichev		Earnings quality proxy using modified Dechow-Dichev(1992) model
Explanatory: Famdum	+	Indicator variable, where 1 is when family members are the largest percentage ultimate shareholder(s) and are either on the board of directors or in the top management and, 0 otherwise
Ownership	+	Ownership is the proportion ownership of the largest ultimate shareholder
Size	+	Natural log of total assets
Leverage	+/-	Total debt divided by total assets
ROA	+	Net income divided by total assets at the end of balance sheet date
AbsROA		Absolute value of ROA
Growth	-	Growth rate in assets
Age	+	Firm age in years
Loss	-	Indicator variable, 1 if a firm is reporting net income <0 for the year, 0 otherwise
Audit	+	Audit is an indicator variable, 1 if the firm has a Big 4 auditor, 0 otherwise

Appendix B: Variables for Voluntary Disclosure

Variable	Exp.Sign	Definition
Dependent: $ABBREV_{it}$		Indicator variable with a value of 1 when company *i* discloses abbreviated financial reports *t*, 0 otherwise
Explanatory: Famdum	+	A dummy variable taking the value 1 if family firm; else 0
Ownership	+	Ownership is the proportion ownership of the largest ultimate shareholder
HERF	+	The Herfindahl-Hirschman Index is calculated as the sum of squares of market shares in the industry
Size	-	Natural logarithm of total assets
Leverage	-	Leverage is total debt divided by total assets
Age	-	Age is firm age in years
Liquidity	-	Current assets over current liabilities
Assets Tangibility	-	Plant, property and equipment divided by total assets
ROA	+	Net income divided by total assets at the end of balance sheet date
Long term Debt	-	Long term Debt is long-term debt over total liabilities
GROWTH	-	Current growth in assets for year t
AUDIT	-	Indicator variable with a value of 1 when firm *i* hires a BIG 4 auditor during year *t*, 0 otherwise
Dechow	-	Residuals from the modified Dechow-Dichev(1992) model